

311 ADJUSTING MANHOLES AND ADJUSTING, REBUILDING AND REPLACING CATCH BASINS

311.01 DESCRIPTION

Work consists of adjusting and resetting existing sewer manhole frames and water valve casings to approved grade, adjusting drop inlet frames, standard basin tops and elongation tops to approved grade, furnishing basin tops and manhole frames and covers to replace units made unusable from conditions beyond the Contractor's control, repairing and modifying various types of sewer structures and manholes, removal and disposal of excess materials.

Work includes adjusting or resetting, during emergencies only, existing PEPCO, Bell Atlantic (C&P), Gas Company, and Western Union utility manhole frames or similar structures to new grade; normally the respective utility will perform this work at no expense to the Contractor. If private utility manhole frames or covers are unusable from conditions beyond the Contractor's control, replacement units will be furnished by the respective utility company at no expense to the Contractor.

311.02 MATERIALS

PCC - 817, Class B

Precast PCC Manhole Rings - 821.04

Reinforcing Steel - 812.02, Grade 60

Brick - 806.01(A)

Steel Channels - 815.01(A)

Cast iron Frames, Covers - 815.04

Mortar - 806.05(B)(4) and (5)

Temporary Asphaltic Concrete - 411

Manhole Adapter Rings - 821.05(B)

311.03 ADJUST MANHOLE FRAMES/DROP INLET FRAMES

When an existing roadway is to be removed and rebuilt, water valve casing frames and sewer manhole frames shall be adjusted to proper grade either by the removal or addition of up to three (3) full courses of sewer brick, or precast ring plus brick, and/or two (2) precast PCC rings for water valve casings. Inlet frames shall be adjusted by removal and/or construction of inlet walls up to eight (8) inches high.

Manhole and inlet frames, grates and covers shall be removed, stored for reuse, and reset with mortar.

Work may also involve adjusting private utility frames in an emergency.

Payment for excavation and pavement replacement surrounding the frame will be made under applicable pay items.

Manhole frames adjusted in flexible pavement areas shall be provided with a PCC collar of sufficient

horizontal dimensions to provide a minimum width of nine (9) inches outside the frame flange, square in section, and to a depth equal to the asphaltic concrete base being placed but not less than six (6) inches.

Payment for the PCC collar will be made under cubic yards of PCC Base with a minimum of 1/4 cubic yard of concrete allowed for each manhole.

311.04 RESET MANHOLE FRAMES/DROP INLET FRAMES

When the roadway is to be salvaged, work consists of resetting sewer manhole frames, water valve casing frames and storm inlet grate frames by cutting and removing a rectangular section of existing paving to provide nine (9) inches width between frame flange edge and cut line; adjusting frame to grade and soils for base if needed per 203.02(B); and furnishing and placing PCC base as a collar around adjusted frame to depth of existing base but not less than six (6) inches depth. Work includes resetting private utility frames during emergencies. Units damaged due to the Contractor's operations shall be replaced at the Contractor's expense.

When traffic must be maintained, steel plating per 624 placed over the reset frame shall be used as directed as part of work. Plates shall be maintained and removed when directed. They shall be of adequate size and positioned to provide bearing along each side of the plate of at least six (6) inches between plate edge and cut edge. If the plate deflection under traffic alters the frame position, repair shall be at the Contractor's expense.

311.05 ADJUST STANDARD BASIN TOPS/ELONGATION TOPS

Work consists of removing catch basin tops, cutting down basin and elongation walls not more than eight (8) inches as needed, mortaring and/or placing up to three (3) full courses of brick and reinstalling tops to meet approved line and grade and to provide firm, even bearing for tops.

311.06 FURNISH INLET FRAME AND MANHOLE FRAME UNITS

Work consists of furnishing storm inlet frame and grate units, basin tops of various size, and sewer-water manhole frame and cover units to replace units made unusable from conditions beyond the Contractor's control; work also includes furnishing water valve casing frames and covers to replace obsolete conic water valve frames encountered.

Placement of furnished units will be included in applicable adjust and reset pay items.

311.07 MANHOLE ADAPTER RINGS

Work consists of furnishing and placing cast iron adapter rings to bring manhole covers to approved grade. Rings shall be set just prior to placing asphalt pavement. Manhole cover seat of frame shall be cleaned just prior to setting ring.

Rings shall be either clamped or tack welded to the frame when improper seating is evident.

311.08 REBUILD SEWER-WATER MANHOLES AND STANDARD BASINS

Where the grade differential is such that manholes and standard basins cannot be adjusted or reset as directed in 311.04 and 311.05, they shall be rebuilt as follows:

Work under (A), (B) and (C) includes excavation and disposal of excess materials, furnishing of PCC,

brick, PCC rings, reinforcement, and backfill and compaction as appropriate per 207 and other incidental work. Existing frames and covers shall be reused where practicable. Construction shall be in conformance with 302, 309 and 310.

(A) WATER VALVE CASINGS. Where more than two (2) precast rings are required, additional rings shall be added and payment limit will be the bottom of the lowest PCC ring set. Construction shall be per 302.

(B) SEWER MANHOLES. Where more than three (3) full courses of brick are required, or where a manhole is to be lowered, the manhole shall be removed to the bottom of the cone or tapered section, or lower if necessary. The manhole shall then be rebuilt to the new elevation, providing a full four (4) foot tapered section. Construction shall be in conformance with 309.

(C) STANDARD BASINS OR ELONGATIONS. Where basin and elongation walls have to be cut down more than eight (8) inches, elongations shall be removed completely and replaced by double/triple basins, and existing basins shall be cut down and rebuilt with Class B concrete per 817 to new elevations as shown on the contract drawings or as directed.

311.09 REPLACE BASINS

Work consists of the complete removal of existing standard or elongated basins and the construction, in its entirety, of new double or triple basins at the same location. Work includes excavation and disposal of the existing basin and excess materials and construction of the new basin in accordance with 310 and backfilling.

When removing the existing basin, care shall be exercised to ensure that the connecting pipe entering the basin is not damaged. Pipe damaged due to the Contractor's operations and considered suitable for the final installation shall be replaced at his expense. Sections of connecting pipe deemed to be unsuitable for the final installation shall be replaced under the Basin Connect Pipe pay item per 310.

311.10 MEASURE AND PAYMENT

The unit of measure for items except Rebuild Sewer-Water Manholes and Rebuild Standard Basins and Elongations will be each. The unit of measure for Rebuild Sewer-Water Manhole will be the vertical linear foot, with measure taken from the lowest point of new construction to the top of the manhole frame. The unit of measure for Rebuild Standard Basin or Elongations will be the cubic yard with measure taken from the lowest point of new construction.

Payment for Adjust Manhole/Drop Inlet Frame, Reset Manhole/Drop Inlet Frame, Adjust Standard Basin Top/Elongation Top, Furnish Inlet Frame, Furnish Basin Top, Furnish Manhole Frame and Manhole Adapter Ring, will be made at the respective contract unit price per each, which payment will include all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Rebuild Sewer-Water Manholes will be made at the contract unit price per vertical linear foot. Payment for Rebuild Standard Basins or Elongations will be made at the contract unit price per cubic yard which payment will include all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Replace Existing Basin with Double (or Triple) Basin and Replace Existing Basin with Double (or Triple) Type 'S' Basin will be made at the respective Contract unit price per each, which payment will include all labor, materials, tools, equipment and incidentals needed to complete the work specified.

